suprarenal cava and the portal venous system. All other venous injuries within the abdomen may be safely ligated with no untoward sequelae. Ligation is indicated if there are other major injuries such as an aortic injury or major liver or pancreatic injury.

The reason for this is two-fold. Ill advised attempts to repair the vein may lead to further blood loss. In addition, the area of the repair is a potential source for thromboembolic complications. The greater the number of associated injuries, the greater this theoretical hazard. In those venous injuries where there are not extensive associated injuries and the patient is not in shock, then an attempt at lateral repair may be made. I would not do so, however, at the expense of further blood loss which unduly prolongs the operation.

A PHYSICIAN: *Would you ligate an injury to a renal vein?*

DR. LIM: Yes. It has been shown in surgical procedures done for portal hypertension and also in other operations dealing with renal veins that ligation of renal veins is well tolerated. The kidney will do quite well as collaterals developed in the capsule. Another major source of collateral venous drainage for the kidney is by the way of the gonadal and adrenal branches.

A PHYSICIAN: *Does clamping the aorta control venous hemorrhage?*

DR. LIM: No. Venous bleeding will continue despite crossclamping of the aorta. Major caval injuries will continue to hemorrhage in a retrograde manner just as readily after aortic clamping as before. The best way to gain control of major venous hemorrhage is by packing or direct compression of the injury. The venous system is a low pressure system and judicious use of pressure will temporarily control almost all venous bleeding. We do not routinely advocate use of vascular clamps on venous injuries since they are apt to tear the vein and cause further damage.

In closing, I would like to reemphasize that when one does not know the exact location of an injury to the aorta, rapid exposure of the entire abdominal aorta may be obtained by incising and reflecting the peritoneal attachment of the left colon along with the spleen and tail of the pancreas to the right. If there should be bleeding from the posterior aspect of the aorta, the kidney may be mobilized from its bed and also reflected over to the right. In this way one can secure any posterior injury of the aorta or any tangential injury of the aorta. If difficulty is still encountered in securing the posterior injury one can carry out an anterior aortotomy or enlarge an existing anterior injury so that one can repair the back wall of the aorta from within the lumen.

CORRECTION

IN THE ARTICLE "Manganese Intoxication," which appeared in the August 1975 issue of the JOURNAL, an error in editing was made which indicated that the concentration of manganese in ambient air is 0.1 microgram per cu mm. The second sentence, page 101, should read "The ambient air concentration averages 0.1 microgram (μg) per cubic meter."